

Math 1  
Quiz 5 Review

The quiz on Tuesday, October 4 covers the following standards from module 2:

- **2B: identify inequalities** Students determine linear inequalities in two variables from their graphs
- **2C: basic exponential equations** Students solve basic exponential equations and demonstrate understanding of exponents.
- **2D: systems (algebra)** Students solve systems of linear equations by substitution or elimination.
- **2E systems (matrices)** Students solve systems of linear equations using matrices.

I may also assess review standards from module 1; these will *not* be indicated on the quiz.

You will *not* be forced to solve a problem using a specific method. (For example, you do not have to use elimination if you prefer substitution.)

Rules of Exponents

Let  $m$  and  $n$  be integers and let  $x$  and  $y$  be real numbers such that all of the following expressions are well defined. Then we have the following rules:

$$x^m \cdot x^n = x^{m+n}$$

$$\frac{x^m}{x^n} = x^{m-n}$$

$$x^0 = 1$$

$$x^{-n} = \frac{1}{x^n}$$

$$(x^m)^n = x^{mn}$$

$$(xy)^n = x^n \cdot y^n$$

$$\left(\frac{x}{y}\right)^n = \frac{x^n}{y^n}$$

(In case you are curious, the above rules hold even when  $m$  and  $n$  are not integers.)

Also recall that exponents do *not* distribute over addition or subtraction:

$$(x + y)^n \neq x^n + y^n$$

$$(x - y)^n \neq x^n - y^n$$